Technical Data

Technicure® D-5

Description:

Technicure® D-5 is a pulverized grade of dicyamdiamide with an average particle size of about 5 micron. The products contains fumed silica to prevent clumping and improve flow. Typically the product is used with epoxy resin between 3-8 phr. Technicure® D-5 reacts with epoxy resin at temperatures higher than 170°C unless an accelerator is used. Suggested accelerators include Technicure® LC-80, Technicure® LC-100 and substituted ureas such as Technicure® MDU-11M, Technicure® PDU-250M and Technicure® TDU-200M. The type and loading level of an accelerator will provide excellent balance of low temperature reactivity and formulation shelf stability.

Advantages:

- Long formulation shelf stability
- High glass transition temperature
- Excellent adhesion to a variety of substrates
- Can be used with an accelerator

Typical Applications:

- One-component adhesives for auto, aerospace and electronics applications
- Composites such as pre-pregs
- Powder coatings

Handling Precautions:

Refer to the product Safety Data Sheet

Typical Properties:

Appearance:	White micronized powder
Average Particle Size:	5 micron
90%:	<10 micron
Melting point:	207- -211 °C
Assay:	99%
Moisture content:	<0.5%

Recommended use level with
Epoxy resin (EEW=190): 3-8 PHR

Typical Formulations (by wt.):

Liquid epoxy resin (EEW=190)	100	100	100
Technicure® D-5	8	8	8
Technicure® PDU-250[1]	0	1	0
Technicure® LC-80[1]	0	0	3
Fumed silica (H 200U)[2]	1	1	1
Reactivity by DSC[3]			
Onset Temp., °C	185	144	121
Peak Temp., °C	190	154	141
Heat of Reaction, J/gm	224	276	350
Glass Transition Temp.[4], °C	158	143	158
Shelf stability[5] at 40 °C			
weeks	>12	2	>5

1. Dicy accelerator – Product of ACCI Specialty Materials
2. Fumed silica – Product of OCI Company Ltd.
3. 10°C/min. scan rate
4. By DMA, after 30 minutes cure at 140°C
5. Time to double the viscosity

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